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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,567	01/23/2002	Ram Zamir	P-4642-US	7411
27130	7590	09/06/2005	EXAMINER	
EITAN, PEARL, LATZER & COHEN ZEDEK LLP 10 ROCKEFELLER PLAZA, SUITE 1001 NEW YORK, NY 10020			PHU, PHUONG M	
			ART UNIT	PAPER NUMBER
			2631	

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,567

Applicant(s)

ZAMIR, RAM

Examiner

Phuong Phu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-72 is/are pending in the application.
- 4a) Of the above claim(s) 18-47 and 56-72 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12,14-17 and 48-55 is/are rejected.
- 7) ☒ Claim(s) 2 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/8/2,10/1/3,5/18/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office Action is responsive to the Election filed on 3/30/04. Accordingly, claims 1-20 and 48-55 are selected.

Information Disclosure Statement

1. The applicant is hereby notified that regarding to the IDS filed on 8/8/02, the references (AA, AB, AC), listed under section U.S. PATENT DOCUMENTS, have been considered by the examiner; however they are not initialed by the examiner because they are not yet published, and therefore, not consider being prior art.

Claim Objections

2. Claim 5 is objected to because of the following informalities:

Claim 5 recites the limitation "said lines". This limitation is lack of antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 3-12, 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Trans (6,553,085).

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-Regarding to claim 1, see figures 1, 10A and 10B and col. 3, lines 6-23, col. 4, lines 24-65, Trans discloses a system comprising:

a first modem pool (102, 181, 107, R) comprising at least two modems (first modem (102, 181) and second modem (107, R) (see figure 1);

at least one protected line connected to one of said modem, (e.g. connected from element (Hybrid) of first modem to element (Hybrid) of a modem at the other end (see figure 1) ;

at least one sensor line (inherently included) connected to the second modem, wherein said sensor line conveys a signal from (TX2) of the second modem to a crosstalk predictor (1001) (see figure 10A) ;

at least one crosstalk predictor (1001) (equivalent with the limitation “alien crosstalk predictor”) operative to sample a signal (equivalent with the limitation “alien signal”) on said at least one sensor line and provide an crosstalk prediction signal (equivalent with the limitation “alien crosstalk prediction signal “) (see figure 10A); and

at least one crosstalk prediction summation element (1003)(equivalent with “alien crosstalk prediction summation element “) operative to receive said crosstalk prediction signal from said crosstalk predictor and subtract said crosstalk prediction signal from a data transmission signal on said protected line.

-Regarding to claim 3, Trans discloses that said modem pool is configured to transmit data via said protected line (see figure 1).

-Regarding to claim 4, in Trans discloses that said modem pool is inherently configured to refrain from transmitting data via said sensor line to the modem at the other end of the first modem (see figure 1).

-Regarding to claim 5, Trans discloses a binder (4 wire pairs) (see figure 1) including at least one line of a third modem (109, R) not connected to said modem pool.

-Regarding to claim 6, Trans discloses that any of said modems in said modem pool comprises (see figure 10A):

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a crosstalk cancellation (CTC) device (10001) operative to receive a signal from any of said modems and provide a crosstalk cancellation signal; and

a crosstalk cancellation summation element (1003) operative to receive said crosstalk cancellation signal from said CTC and subtract said crosstalk cancellation signal from any of said lines.

-Regarding to claim 7, Trans discloses that any of said modems in said modem pool comprises (see figure 10A):

an analog front end (AFE) (comprising A/D) (see col. 4, lines 47-51); and

a digital signal processor (DSP) (1005, 1009, 1007) in communication with said AFE.

-Regarding to claim 8, Trans discloses that said crosstalk prediction summation element is intermediate said AFE and said DSP at a terminus of said protected line (see figure 10A).

-Regarding to claim 9, Trans discloses that said crosstalk cancellation summation element is operative to subtract said crosstalk cancellation signal at a point intermediate said AFE and said DSP (see figure 10A).

-Regarding to claim 10, Trans discloses that said crosstalk predictor is operative to sample an signal on said sensor line at a point intermediate said AFE and said DSP (see figure 10A).

-Regarding to claim 11, Trans discloses that said crosstalk cancellation summation element is operative to subtract said crosstalk cancellation signal at a point intermediate said AFE and said crosstalk predictor sample point (see figure 10A).

-Regarding to claim 12, Trans discloses that said crosstalk cancellation summation element is operative to subtract said crosstalk cancellation signal at a point intermediate said AFE and said crosstalk prediction summation element (see figure 10A).

-Regarding to claim 15, Trans discloses a second modem pool comprising at least one modem (109, R) (see figure 1), wherein said protected line and said sensor line connect said modem pools.

-Regarding to claim 16, Trans discloses crosstalk predictor is an adaptive device (see col. 4, lines 37-39).

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-Regarding to claim 17, CTC device is an adaptive device (see col. 4, lines 37-39).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 14 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trans.

-Regarding to claim 14, Trans does not disclose whether sampling rates at the input and output of said CTC and said crosstalk predictor are identical.

However, Trans discloses that the output of said crosstalk predictor and input of said CTC are identical.

Since Trans does not specify sampling rate of the input of said crosstalk predictor and output of said CTC, it would have been obvious for one skilled in the art, when building or carrying out Trans invention, within his skills and design preference, to implement Trans in such a way that sampling rates at the input and output of said CTC and said crosstalk predictor are identical in still meeting the requirement that the output of said crosstalk predictor and input of said CTC are identical.

Claim 55 is rejected with similar reasons set forth for claim 14.

7. Claim 48-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trans in view of Chen (5,970,088) (provided in the IDS filed on 10/01/03).

-Regarding to claim 48, as applied to claims 1, 3-12, 15-17, see figures 1, 10A and 10B and col. 3, lines 6-23, col. 4, lines 24-65, Trans discloses method comprising:

step (1001) (see figure 10A) of sampling an alien signal on at least one sensor line connected to at least one modem (first modem (102, 181)) in a modem pool (102, 181, 107, R) (see figure 1);

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step (1001) of providing an alien crosstalk prediction signal by applying an adaptive fashion on said sampled alien signal (see col. 4, lines 36-39); and

step (1003) (see figure 10A) of subtracting said alien crosstalk prediction signal from a data transmission signal received on at least one protected line connected to at least one other modem in said modem pool.

Trans does not disclose said adaptive fashion is performed by filtering said sampled alien signal.

Chen teaches step (NEXT CANCELLER) of providing an alien crosstalk prediction signal by (ADAPTIVE FILTER) filtering its input samples (see figure 14e, and col. 42, lines 3-16).

Since Trans does teach in detail how the providing an alien crosstalk prediction signal is performed, it would have been obvious for one skilled in the art to implement Trans in such a way that said adaptive fashion is performed by filtering said sampled alien signal, as taught by Chen, in order to provide an alien crosstalk prediction signal, as required.

- Claim 49 is rejected with similar reasons set forth for claim 3.
- Claim 50 is rejected with similar reasons set forth for claim 4.
- Claim 51 is rejected with similar reasons set forth for claim 6.
- Claim 52 is rejected with similar reasons set forth for claim 8.
- Claim 53 is rejected with similar reasons set forth for claim 9.
- Claim 54 is rejected with similar reasons set forth for claim 10.

Allowable Subject Matter

8. Claims 2 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Phu whose telephone number is 571-272-3009. The examiner can normally be reached on M-F (6:30-2:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong Phu

Phuong Phu
08/18/05

PHUONG PHU
PRIMARY EXAMINER

Phuong Phu
Primary Examiner
Art Unit 2631